

We claim:

5 1. ~~A process for protecting a host animal, comprising
administering a vaccine *in ovo* to a fertile egg containing an embryo of the
host animal; and wherein the vaccine comprises an immunogenically-
effective amount of a live, avirulent strain of infectious bronchitis virus.~~

10 2. The process of Claim 1, wherein the
immunogenically-effective amount is in the approximate range of from
about $10^{-1.0}$ EID₅₀ per egg to about $10^{2.0}$ EID₅₀ per egg.

15 3. The process of Claim 2, wherein the
immunogenically-effective amount is about $10^{-1.0}$ EID₅₀ per egg.

4. The process of Claim 2, wherein the
immunogenically-effective amount is about $10^{0.0}$ EID₅₀ per egg.

5. The process of Claim 2, wherein the
immunogenically-effective amount is about $10^{1.0}$ EID₅₀ per egg.

6. The process of Claim 2, wherein the
immunogenically-effective amount is about $10^{2.0}$ EID₅₀ per egg.

20 7. The process of Claim 1, wherein said administering
occurs during incubation.

8. The process of Claim 7, wherein:
said administering occurs on approximately day 18 of
incubation.

9. The process of Claim 1, wherein
25 the host animal is a chicken.

10. The process of Claim 9, wherein the chicken is
maternal-antibody-positive.

11. The process of Claim 10, wherein the chicken is other
than a SPF chicken.

Sub B2
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Sub C2

12. The process of Claim 11, wherein the chicken originates from a commercial flock of broilers.

Sub B2
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Sub C2

13. A process for protecting chickens from exposure to virulent strains of infectious bronchitis virus, comprising administering *in ovo* to fertile chicken eggs a vaccine comprising, on a per egg basis, an immunogenically-effective amount of a live, avirulent strain of infectious bronchitis virus.

10 *Sub B2*
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Sub C2

14. The process of claim 13, wherein the immunogenically-effective amount is in the approximate range of from about $10^{-1.0}$ EID₅₀ per egg to about $10^{2.0}$ EID₅₀ per egg.

Sub E1
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Sub C3

15. A vaccine for protecting chickens from exposure to virulent infectious bronchitis virus, comprising: a solution containing, on a per chicken egg basis, a live, avirulent strain of infectious bronchitis virus in an immunogenically-effective amount.

20 *Sub E1*
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Sub C3

16. The vaccine of claim 15, wherein the immunogenically-effective amount is efficacious against subsequent post-hatch exposure of the chicken to virulent infectious bronchitis virus and does not significantly decrease the percentage of *in ovo* vaccinated chicken eggs that hatch upon the expiration of the incubation period.

Sub C4
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Sub C5

17. The vaccine of claim 15, wherein the immunogenically-effective amount is in the approximate range of from about $10^{-1.0}$ EID₅₀ per egg to about $10^{2.0}$ EID₅₀ per egg.

Sub C4
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Sub C5

18. The vaccine of claim 17, wherein the vaccine contains substantially no virus neutralizing factor.

add B4

add C6
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add D37

add E57